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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,197	03/24/2004	Kiyono Ikenaka	02860.0787	3745

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EXAMINER

TRAN, THANG V

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/807,197

Applicant(s)

IKENAKA, KIYONO

Examiner

Thang V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-14 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

1. Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how limitations recited in these claims 11-13 are relatively operated with and structurally incorporated into limitations previously recited in claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaura et al (US 6,610,380) in view of Komma et al (US 6,954,417).

Regarding claim 1, see Figs. 3 and 5 of Kitaura et al which disclose an optical pickup apparatus for a recording medium including at least a transparent protective substrate (1) with a thickness of t_1 , where $0.5 \text{ mm} \leq t_1 \leq 0.7 \text{ mm}$ (see column 5, lines 48-50), a first information recording surface (7), an intermediate layer (8) and a second information recording surface (9) which are laminated in this order from a light source side along an optical axis, comprising: a first light source (10) to emit a light flux having a wavelength of λ_1 , where $380 \text{ nm} \leq \lambda_1 \leq 450 \text{ nm}$ (see column 3, line 60 or column 7, line 9 as an example), an objective lens (6) to converge the light flux onto the first optical information recording medium. However, Kitaura et

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al fails to suggest the use of a spherical aberration correcting structure to correct a spherical aberration caused in a converged spot on the first and second information recording surfaces due to an intermediate layer thickness when the objective lens converges at least a light flux emitted from the first light source on the first information and second information recording surfaces.

Komma et al., according to Figs. 1, 4, 15 and 16, teaches the use of a spherical aberration correcting structure above for the purpose of correcting an aberration of the light beam depend on the thickness of interlayer in order to improve recorded information signal obtained from a the optical pickup (see element 4 in Fig. 15 for spherical aberration correcting structure and Fig. 1 for its operation). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the spherical aberration correcting structure as taught by Komma et al into the optical pickup of Kitaura et al for correcting an aberration of the light beam depend on the thickness of interlayer in order to improve recorded information signal obtained from a the optical pickup.

Regarding claim 2, see Fig. 16 of Komma et al which discloses the change of incident light beam by the aberration correction device (201) when position of the converged spot is shifted (jumped) from one recording layer to another recording layer.

Regarding claim 3, see Fig. 16 of Komma et al which discloses optical elements (21, 22) in the spherical aberration correcting structure are moved by driving means (24, 25) along an optical axis.

Regarding claim 6, see liquid crystal element 4 in Fig. 14 or 15 of Komma for limitation recited in this claim.

Regarding claim 14, since the optical pickup Kitaura et al modified by Komma having the same structure of objective lens and wavelength, limitation related to focus length recited in this claim is inherently included therein.

4. Claims 1, 3-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaura et al (US 6,610,380) in view of Kimura (US 6,950,383)

Regarding claim 1, see Figs. 3 and 5 of Kitaura et al which disclose an optical pickup apparatus for a recording medium including at least a transparent protective substrate (1) with a thickness of t_1 , where $0.5 \text{ mm} \leq t_1 \leq 0.7 \text{ mm}$ (see column 5, lines 48-50), a first information recording surface (7), an intermediate layer (8) and a second information recording surface (9) which are laminated in this order from a light source side along an optical axis, comprising: a first light source (10) to emit a light flux having a wavelength of λ_1 , where $380 \text{ nm} \leq \lambda_1 \leq 450 \text{ nm}$ (see column 3, line 60 or column 7, line 9 as an example), an objective lens (6) to converge the light flux onto the first optical information recording medium. However, Kitaura et al fails to suggest the use of a spherical aberration correcting structure to correct a spherical aberration caused in a converged spot on the first and second information recording surfaces due to an intermediate layer thickness when the objective lens converges at least a light flux emitted from the first light source on the first information and second information recording surfaces. Kimura, according to Figs. 1-4, teaches the use of a spherical aberration correcting structure above for the purpose of correcting an aberration of the light beam depend on the thickness of interlayer in order to improve recorded information signal obtained from a the optical pickup (see element 3 in Fig. 1 or 23 in Fig. 3). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to incorporate the spherical aberration correcting structure as taught by Kimura into the optical pickup of Kitaura et al for correcting an aberration of the light beam depend on the thickness layer of a recording medium in order to improve recorded information signal obtained from a the optical pickup.

Regarding claim 3, see element 23 moved in the optical path by driver 13 as shown in Fig. 3 of Kimura for limitations recited in this claim.

Regarding claims 4 and 5, see Fig. 1 or 3 of Kimaru for limitation of finite light recited in these claims.

Regarding claims 6 and 7, see element 3 having three portions (b) as shown in Fig. 1 of Kimaru for limitations recited in these claims.

Regarding claim 11, see light source (1) is moved along the optical axis by driver 13 while optival element 4 is not moved during the operation of the pickup as shown Fig. 4 of Kimura for limitations recited in this claim.

5. Claims 1, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitaura et al (US 6,610,380) in view of Katayama (US 2002/0181366).

Regarding claim 1, see Figs. 3 and 5 of Kitaura et al which disclose an optical pickup apparatus for a recording medium including at least a transparent protective substrate (1) with a thickness of t_1 , where $0.5 \text{ mm} \leq t_1 \leq 0.7 \text{ mm}$ (see column 5, lines 48-50), a first information recording surface (7), an intermediate layer (8) and a second information recording surface (9) which are laminated in this order from a light source side along an optical axis, comprising: a first light source (10) to emit a light flux having a wavelength of λ_1 , where $380 \text{ nm} \leq \lambda_1 \leq$

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450nm (see column 3, line 60 or column 7, line 9 as an example), an objective lens (6) to converge the light flux onto the first optical information recording medium. However, Kitaura et al fails to suggest the use of a spherical aberration correcting structure to correct a spherical aberration caused in a converged spot on the first and second information recording surfaces due to an intermediate layer thickness when the objective lens converges at least a light flux emitted from the first light source on the first information and second information recording surfaces.

Katayama, according to Figs. 8 and 9 or 15 and 16, teaches the use of a spherical aberration correcting structure above for the purpose of correcting an aberration of the light beam depend on the thickness of interlayer in order to improve recorded information signal obtained from a the optical pickup (see element shown in Fig. 9 or 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the spherical aberration correcting structure as taught by Katayama into the optical pickup of Kitaura et al for correcting an aberration of the light beam depend on the thickness layer of a recording medium in order to improve recorded information signal obtained from a the optical pickup.

Regarding claim 10, see the operation of wavelength selective filter 3 in Fig. 8 or 15, or element 22a in Fig. 21 relative to the change of wavelength of the light beam generated from different light sources 1a, 1a and 1c for limitation recited in this claim.

Regarding claims 12 and 13, as indicated above, it is not clear from these claims how limitations recited in these claims are incorporated and operated relatively to limitations recited in claim 1. However, limitations recited in these claims are nothing more than a well known recording/reproducing apparatus for a standard DVD and CD, see Fig. 15, 22, 29 or 30 of Katayama for these limitations.

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Allowable Subject Matter

6. Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 8 and 9 are allowable over the prior art of record because the prior art of record, considered alone or in combination, fails to suggest or fairly teach an optical pickup including all of limitations as recited in claim 8 or 9.

Cited References

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to an optical pickup having an aberration correction device for correcting an aberration of a light beam in according to a detected thickness of an optical recording medium.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang V. Tran whose telephone number is (571) 272-7595. The examiner can normally be reached on M-F 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen Hoa can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thang V. Tran
Primary Examiner
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